also in Dzungaria. There a large expanse of pasture land prevails more in the south along the northern foothill slope of the Tien-shan than the north along the southern side of the Altai.

C. Population Trend and Its Significance

1. The Changing Trend of the Northwest in Comparison with Other Major Regions.

The population of the Northwest as in the rest of the country has been on the increase in spite of the limited arable and irrigable land resulting from inadequate rainfall, and the mountainous terrain, as well as the frequent earthquakes in Kansu and repeated Moslem disturbances. It was reported that more than 246,000 people were killed by the great earthquake of Hai-yüan, Ching-ning, and Tung-wei in eastern Kansu in December, 1920, and the Moslem uprisings of 1861-1874, 1895, and 1944. Long before the 1953 census was taken, there has been an incessant influx of people in large numbers. A gradual increase is marked by various estimates and reports. For example, in regard to the population estimation of Sinkiang Province, the Ministry of Internal Affairs in 1910 gave the figure of 2,670,000 and 2,519,579 in 1923; the record taken from "Le Temps" of April 5, 1934, is around 5,000,000. According to a nation-wide regional survey taken by the Agricultural College of Nanking University in the period from 1928-1933, the annual rate of natural increase of the Northwest was at 11.5 per thousand which was exceeded only by the North China Plain, as illustrated by Table XII.[1,2,]

According to the 1953 census report for the nation as a whole, the average birth rate is thirty-seven per thousand, average death rate, seventeen, and average annual natural increase, twenty.

Table XII clearly indicates that the annual natural increase rate of the Northwest is due to a smaller death rate rather than a higher birth rate as compared with other regions. This might be the result of a healthier, drier climate rather than better living conditions or medical care. The 1953 census report gives an even larger natural increase for the nation due to a higher birth rate and a lower death rate. The gradual population increase of the Northwestern provinces is also shown by Table XIII;[1,2,] this table shows a considerable increase for the provinces of Shensi and Kansu (including Ninghsia) especially. As for Chinghai and Sinkiang, although the increase is not so pronounced, nearly one third of a million for the former and 1.1 million increase for the latter are indicated. These bring a total increase of over thirteen million (more than half the original number in seven years) for the four

[1,2,] [See pp. 135-136--Analyst]

TABLE X. (Continued)

| Province | Field of Deposit | Lat. & Long. | 1942 production | Total | 1943 prod. | Total |
|---|---|---|---|---|---|---|
| Kansu (Continued) | | | | | | |
| | Pei-wen (Lake) | 38.50x101.14 | 130 | | 104 | |
| | Liu-chia-wan(Earth) | | 100 | | 51 | |
| | Pa-pan | | 45 | | 19 | |
| | | | | 12,335 | | 14,898 |
| Chinghai | Cha-chia (Lake) | 36.48x 99.23 | 1,700 | | 2,427 | |
| | She-an-tang(Earth) | 36.23x102.53 | 25 | | 28 | |
| | | | | 1,725 | | 2,455 |
| | GRAND TOTAL | | | 91,165 | | 69,331 |

TABLE XI. Distribution of Gypsum Deposits of Northwest China by Province

| Province | Field of Deposit | Location |
|---|---|---|
| Shensi | Lin-tung | 34.24x109.13 |
| Chinghai | Hsining | 36.37x101.46 |
| Kansu | Ha-chia-tsun, Yung-teng | 36.37x103.33 |
| Sinkiang | Wen-su | 41.15x79.55 |
| | Kuche | 41.43x82.54 |
| | Pai-cheng | 41.46x81.52 |

TABLE XII. Population Increase of the Various Regions

| Major Regions | No. Places Surveyed | No. Farm Families invest'd. | Birth Rate* | Death Rate* | Natural Increase |
|---|---|---|---|---|---|
| Northwest | 14 | 5,648 | 35.0 | 22.0 | 11.5 |
| North China | 26 | 10,816 | 40.2 | 26.6 | 13.6 |
| Lower Yangtze | 21 | 9,849 | 38.5 | 28.3 | 10.1 |
| Southwest | 20 | 5,343 | 46.2 | 35.6 | 10.6 |
| Southeast | 12 | 4,540 | 37.7 | 31.2 | 6.5 |
| | 93 | 36,196 | 39.3 | 28.2 | 11.1 |

*per 1,000

1: Washington S-4 (no date) 1956 AF13 Northwest China AF13 Sinkiang All

/The Chinese/

knowledge of sanitation and elementary health regulations. Their concepts of health and disease rest mainly on the traditional beliefs. The concept that dominates most of their thinking about the human body and its health is that of the Two Principles of yang and yin. These are philosophical concepts of the origin of all things. The yang principle represents the male and the yin represents the female. They stand for opposite poles - heaven and earth, sun and moon, day and night, heat and cold, life and death, positive and negative, strong and weak.

In medicine, everything is classified as yang or yin. The exterior of the body - the skin - is yang, while the interior is yin. The back is yang, while the abdomen is yin. The heart and liver are yang while the spleen, lungs and kidneys are yin. A disease, accordingly, is yang when due to external causes and yin when due to internal causes. Respiratory diseases, fever, and diseases affecting the upper part of the body are yang diseases. Chills and afflictions of the lower body, and circulatory diseases are yin diseases. When the yin predominates, one suffers from yang disease; when the yang is in excess yin results. These two principles must be kept in mind when treating the disease, since the drugs and herbs are also divided into these two classes.

Another Chinese concept concerning health is that of the existence of the Five Elements - metal, wood, water, fire and earth. According to this belief, the human body is composed of a mixture of the five elements. So long as the proportions of these five elements remain in order, health results. If the balance is disturbed, disease follows.

These beliefs are common mainly among the uneducated population, the rural and the lower classes of the urban population. In most cases, the higher classes have a Western knowledge of the basic elements of health and sanitation and know the basic facts of human physiology and the causes of transmission of diseases. Illiteracy and ignorance is much greater in the Northwest region than along the Pacific Coast. Thus, in the Northwest, the beliefs are widespread and most Western ideas have not penetrated into the larger part of the population.

Unfortunately, we do not have figures on the birth and death rate in Northwest China. The figures for all of China are given in the chapter on "Health and Sanitation" of the General China Handbook.

C. Predominant Diseases Among the Chinese

The most common diseases are the fecal-borne ones. They are spread through the use of human waste as fertilizer. Andre Migot, who travelled through Northwest China in 1946, dwells on this problem in his description of a typical middle-sized town in this area (Tibetan Marches, p. 51): "Then there is the problem of sanitation. The total volume of human excrement produced every day

/The Chinese/

N
*563 by half a million people - even if they live mainly on rice - is
164 bound to be formidable. No sewage system of any kind exists; its
364 place is taken by an old established guild of public servants who
S
563 can be seen every morning in large numbers making their way
164 through the streets. The casks or buckets which dangle from
364 the bamboo poles across their shoulders smell no better than
you would expect them to. They are always full to the brim and
their contents, which are eventually sold to truck gardens on the
S outskirts of the city, are a constant threat to the legs of the
N passers-by.... The buckets in which they carry their night
[415] soil down the hill are used, after being briskly rinsed, to carry
[312] their water up."

Besides producing a very unpleasant picture, this description brings out the very serious problems connected with the lack of a proper sewage system. It also points out the many possibilities for spreading contagious diseases and infections.

N
*563 Tuberculosis is quite prevalent in China. Epidemic diseases
164 are common also, such as typhoid and paratyphoid fevers, cholera
• [165] and smallpox. Malaria and the two kinds of dysenteries, amoebic
[844] and bacillary also are present. Death at childbirth, both of infants
S
563 and mothers, is quite high, because of the lack of adequate sani-
164 tary precautions during childbirth and the practices of the mid-
[165] wives, who do nothing to prevent infection of both mother and
[844] child.

S
N Winfield in his book states that "seventy-five per cent of all
[165] deaths in China are due to preventable diseases that are under control in the West; there are about 15 million deaths each year in China, of which 11,750,000 are due to preventable diseases." (China: The Land and the People, p. 111).

D. Medical Personnel

N
759 The lack of Western-trained doctors, nurses, pharmacists
*563 and dentists in the Northwest is an extremely serious problem.
S Most people, because of the shortage of medical personnel, still
759 go to the local herb-doctors. (A full description of the traditional
563 Chinese science of medicine is given in the General Handbook).
In many less acute cases, people either neglect to do anything or attempt to treat themselves by unscientific methods.

S E. Efforts of the Government

N
744 The Nationalist Government was aware of the serious shortage of medical personnel and equipment in all of China, including the Northwest. Two national organizations were established in the 1930's to deal with these problems: The Department of Public Health under the Ministry of the Interior, which had a Northwestern Office for the Prevention of Epidemics, and the National Health Department under the National Economic Council, which also had an office in the Northwest.

000 in Dulan gomba. It is true, there was not much hope from the beginning for the gifted little boy. His heart was too weak. He died two days later. And while the sorrowing parents with their Chinese friends were carrying the coffin to a distant grave outside the city, the dreadful plague struck their second boy. Again, none of the remedies we tried helped. The child followed his brother into the grave after a few days.

The sorrow of the poor parents knew no bounds when we washed the child for the last time and laid him in his little coffin and closed it up. I have never before so much admired missionaries who in obedience to the old Bible command, go to far countries with their families in order to bring the blessings of the gospel to others, while they themselves usually harvest but ingratitude, and finally sacrifice their own families. No matter what one's views are about the question of missions, one has deep respect for such sacrificial courage. The China Inland Mission to which Mr. and Mrs. Ridley belong, combines a number of sects: High Church and Lutheran, as well as Brethern, Methodist, and members of the Salvation Army, etc. They all work together and for a salary that hardly meets their needs. During my time every active member, man or woman, got about 20 taels a month. This required good management, in spite of cheap living conditions.

164 After this sore trial, Mr. and Mrs. Ridley threw themselves into their work with twice the energy. At that time there were many sick to be cared for. Throughout Kansu it had not rained for several months and scarlet fever and diphtheria were taking a dreadful toll everywhere. Every day 18 to 20 bodies were carried out of the comparatively small city of Hsining fu. The Chinese simply threw many children over the walls where wild dogs and birds fought over their bodies.

One night I was called to a house where a young woman lay on a bench in the middle hall, dressed in her best silks, awaiting death. The Taoist priests had vainly attempted to cast out the disease with bells and gong, now the white magician should see what he could do. The coffin was already standing beside the woman and none of the relatives wanted to stay near her. I heard the death rattle as a servant led the way, bearing a candle.

The plague attacked young and old and there was hardly ever an effective remedy. The people maintained that bathing and sponging
• 165 meant certain death. After this experience I was not surprised that the natives estimate child mortality in and around Hsining fu at

70 percent. Otherwise infant mortality in China is figured at only 50 percent. And yet even here Chinese culture is gaining the upper hand. "Rdya sche sdong luch!" (If today you kill a hundred, tomorrow there will be a thousand to take their place!). Thus speak the Tibetans of their neighbors and masters, the Chinese. In order to maintain itself a vigorous race does not need the protection of European hygiene!

/85/

"What sea is it from which ever to be freed is so very difficult?"
"It is the cycle of rebirth in the three worlds, in whose mighty tide of suffering we are tossed about."
/Saying of bLobzang sKalbzang the seventh Dalai Lama (1708-1758) at an examination./

## CHAPTER XIII
## A New Journey

"So you say you've been in Tibet! And were you in Lhasa? Did you meet Sven Hedin there? - or did you at least see the Dalai Lama?" These are the three things that cultivated Germans generally want to know from someone who has been in Tibet.

It was therefore my good fortune that I was attacked and forced to return to Hsining. In that way I at least saw one of the three important things of Tibet, the Dalai Lama.

It was the end of November when I rode down to Lanchow fu in order to fetch from there extra instruments and, above all, silver. The European colony in that city had meanwhile grown astonishingly; there were ten of us, including children. Belgian mining engineers and chemists as well as a professor of textiles had just arrived from Europe through the help of Paul Splingaert, the one-time interpreter of F. v. Richthofen. Engineers of the German firm were also expected, who were to put up an iron bridge in place of the old pontoon bridge, this Central Asiatic wonder-of-the-world. A faint awareness of a new era had penetrated to the chief city of Kansu. Indeed, a few weeks before my arrival street lamps had been put up, the little salad-oil lamps of Laohokow, which, behind their paper shades gave just enough light so that one could make out the post on which they were placed.